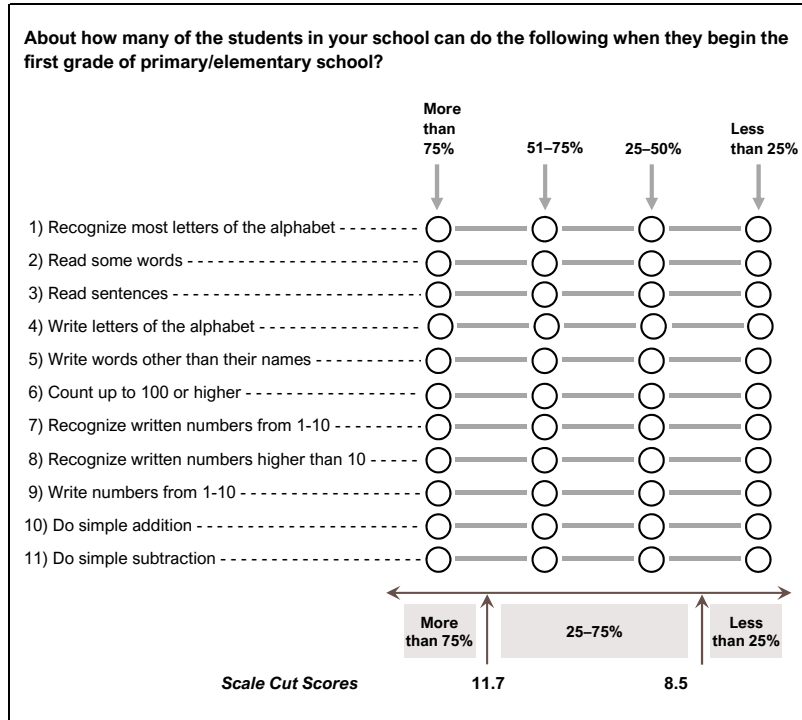


Exhibit 4.1.6: Schools Where Students Begin the Primary Grades With Literacy and Numeracy Skills – Principals’ Reports

About the Scale

Students were scored according to their principals’ reports regarding the percentage of students in the school who begin primary school with the eleven skills on the *Schools Where Students Begin the Primary Grades with Literacy and Numeracy Skills* scale. Cut scores divide the scale into three categories. Students in schools where **More than 75% Begin with Skills** had a score at or above the cut score corresponding to their principals reporting that “more than 75%” of the students have six of the eleven skills and “51–75%” of the students have the other five, on average. Students in schools where **Less than 25% Begin with Skills** had a score at or below the cut score corresponding to their principals reporting that “less than 25%” of the students have six of the eleven skills and “25–50%” of the students have the other five, on average. All other students attended schools where **25–75% Begin with Skills**.



SOURCE: IEA's Trends in International Mathematics and Science Study - TIMSS 2023
Downloaded from <https://timss2023.org/results>

Exhibit 4.1.7: Schools Where Students Begin the Primary Grades With Literacy and Numeracy Skills – Principals' Reports

Country	More than 75% Begin with Skills		25–75% Begin with Skills		Less than 25% Begin with Skills		Average Scale Score
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	
Albania	48 (5.9)	522 (8.5)	48 (5.6)	501 (7.2)	4 (2.0)	503 (17.2)	11.6 (0.17)
Armenia	12 (2.8)	513 (8.5)	58 (4.6)	516 (3.8)	30 (4.1)	507 (5.9)	9.3 (0.15)
Australia	r 6 (1.9)	570 (12.8)	47 (4.3)	540 (5.1)	48 (4.0)	509 (5.1)	8.7 (0.14)
Azerbaijan	27 (4.0)	498 (8.6)	60 (4.2)	493 (4.1)	13 (2.2)	494 (12.2)	10.6 (0.14)
Bahrain	38 (3.1)	480 (8.0)	54 (3.3)	452 (5.3)	8 (1.8)	434 (19.1)	11.1 (0.11)
Belgium (Flemish)	2 ~	~ ~	76 (3.9)	526 (3.0)	22 (3.8)	512 (7.4)	9.3 (0.09)
Belgium (French)	8 (2.7)	499 (11.8)	76 (3.4)	494 (2.7)	16 (2.5)	460 (7.6)	9.8 (0.12)
Bosnia & Herzegovina	r 4 (2.4)	418 (14.7)	64 (5.1)	456 (5.2)	31 (4.9)	442 (7.3)	9.3 (0.15)
Brazil	19 (3.0)	439 (10.1)	51 (3.8)	395 (4.3)	30 (2.9)	386 (8.9)	9.9 (0.13)
Bulgaria	21 (3.0)	571 (6.7)	62 (4.2)	538 (3.7)	17 (2.9)	453 (13.9)	10.2 (0.12)
Canada	24 (2.1)	519 (5.2)	68 (2.4)	501 (2.4)	8 (1.4)	494 (7.4)	10.6 (0.09)
Chile	r 18 (3.9)	453 (8.9)	57 (4.4)	450 (4.6)	25 (3.9)	435 (6.8)	9.9 (0.18)
Chinese Taipei	45 (3.3)	611 (2.8)	47 (3.7)	604 (2.4)	8 (1.9)	607 (5.5)	11.4 (0.12)
Cyprus	6 (2.1)	538 (9.5)	62 (3.9)	520 (3.5)	32 (3.4)	506 (4.6)	9.2 (0.10)
Czech Republic	1 ~	~ ~	46 (3.9)	534 (3.5)	54 (3.8)	526 (3.2)	8.6 (0.09)
Denmark	r 4 (1.7)	532 (9.2)	77 (4.2)	527 (2.8)	19 (3.9)	517 (5.7)	9.5 (0.11)
England	r 47 (5.1)	568 (5.3)	47 (4.9)	547 (6.4)	6 (2.6)	514 (11.2)	11.3 (0.18)
Finland	14 (3.1)	545 (4.7)	82 (3.3)	526 (2.4)	4 (1.6)	501 (27.5)	10.6 (0.10)
France	r 9 (2.5)	505 (9.4)	87 (3.1)	481 (3.2)	4 (1.8)	439 (14.8)	10.4 (0.09)
Georgia	4 (1.6)	504 (16.6)	55 (4.2)	499 (4.7)	40 (4.2)	496 (5.3)	8.9 (0.13)
Germany	0 ~	~ ~	47 (3.5)	535 (2.7)	53 (3.5)	518 (3.9)	8.5 (0.08)
Hong Kong SAR	r 74 (3.4)	606 (6.1)	26 (3.4)	575 (10.6)	0 ~	~ ~	12.5 (0.09)
Hungary	0 ~	~ ~	34 (4.0)	542 (6.8)	66 (4.0)	508 (5.6)	8.0 (0.11)
Iran, Islamic Rep. of	10 (2.2)	423 (11.8)	34 (3.3)	421 (7.4)	56 (3.6)	417 (5.6)	8.6 (0.15)
Ireland	80 (3.4)	552 (3.2)	20 (3.4)	527 (8.1)	0 ~	~ ~	12.7 (0.09)
Italy	5 (1.6)	509 (13.1)	57 (3.8)	516 (3.9)	38 (3.8)	510 (4.8)	9.1 (0.13)
Japan	34 (3.6)	602 (3.3)	64 (3.8)	585 (2.7)	3 (1.4)	594 (16.3)	11.1 (0.11)
Jordan	30 (4.2)	432 (10.3)	53 (4.3)	427 (7.7)	17 (2.7)	420 (13.4)	10.7 (0.17)
Kazakhstan	20 (3.0)	490 (9.1)	73 (3.3)	487 (4.5)	7 (1.7)	484 (11.0)	10.5 (0.11)
Korea, Rep. of	57 (4.4)	604 (3.2)	43 (4.4)	582 (5.0)	0 ~	~ ~	11.9 (0.13)
Kosovo	r 24 (4.0)	448 (7.7)	65 (4.6)	453 (3.8)	11 (2.9)	433 (21.5)	10.6 (0.14)
Kuwait	27 (3.2)	422 (10.9)	52 (4.2)	374 (7.4)	21 (3.4)	338 (7.7)	10.4 (0.13)
Latvia	50 (4.2)	539 (3.2)	47 (4.1)	530 (4.6)	3 (2.4)	515 (7.3)	11.7 (0.12)
Lithuania	16 (3.2)	567 (8.7)	79 (3.6)	561 (3.4)	5 (1.8)	538 (16.2)	10.5 (0.11)
Macao SAR	42 (0.1)	578 (1.5)	57 (0.1)	586 (1.4)	2 ~	~ ~	11.6 (0.00)
Montenegro	1 ~	~ ~	54 (0.6)	483 (2.8)	45 (0.7)	474 (2.5)	8.7 (0.02)
Morocco	17 (2.9)	406 (12.8)	60 (3.7)	397 (5.4)	22 (3.0)	390 (12.2)	9.9 (0.14)
Netherlands	s 20 (5.6)	542 (6.5)	77 (5.7)	537 (3.4)	3 (1.7)	486 (27.7)	10.7 (0.20)
New Zealand	r 5 (1.8)	502 (8.7)	41 (4.9)	504 (5.9)	54 (4.7)	483 (5.7)	8.6 (0.14)
North Macedonia	8 (2.1)	465 (10.6)	57 (3.5)	487 (4.8)	36 (3.5)	459 (6.5)	9.3 (0.13)
Norway (5)	r 1 ~	~ ~	74 (3.8)	534 (2.7)	25 (3.8)	525 (4.6)	9.3 (0.10)
Oman	24 (2.8)	439 (7.6)	58 (3.3)	415 (5.8)	17 (2.7)	410 (9.8)	10.4 (0.13)
Poland	25 (3.8)	542 (4.6)	72 (3.9)	547 (2.6)	3 (1.3)	545 (13.9)	10.9 (0.10)
Portugal	7 (2.1)	519 (12.6)	60 (4.0)	516 (3.8)	33 (3.5)	517 (5.0)	9.3 (0.13)
Qatar	53 (3.2)	477 (5.7)	36 (3.0)	445 (5.8)	11 (2.4)	451 (13.8)	11.3 (0.15)
Romania	s 57 (5.7)	551 (8.9)	31 (5.4)	543 (7.0)	12 (4.0)	518 (22.0)	11.5 (0.27)
Saudi Arabia	29 (3.2)	423 (7.2)	50 (3.6)	421 (5.9)	21 (2.9)	412 (9.9)	10.3 (0.14)
Serbia	2 ~	~ ~	87 (2.8)	524 (3.7)	11 (2.6)	506 (9.1)	9.7 (0.09)
Singapore	82 (0.0)	618 (3.1)	18 (0.0)	598 (7.0)	1 ~	~ ~	12.6 (0.00)
Slovak Republic	3 (1.4)	535 (11.3)	62 (3.6)	527 (3.1)	35 (3.6)	492 (7.5)	8.9 (0.12)
Slovenia	1 ~	~ ~	55 (4.2)	512 (2.2)	44 (4.1)	514 (3.2)	8.8 (0.10)
South Africa (5)	r 17 (3.4)	390 (19.6)	68 (4.2)	352 (6.0)	16 (2.9)	353 (13.5)	10.2 (0.12)
Spain	50 (2.6)	508 (2.8)	48 (2.6)	490 (3.3)	2 ~	~ ~	11.6 (0.07)
Sweden	r 46 (4.6)	539 (3.4)	50 (4.5)	521 (5.2)	5 (1.8)	512 (17.3)	11.2 (0.16)
Türkiye (5)	27 (3.9)	560 (11.4)	45 (4.1)	557 (7.1)	28 (3.9)	545 (8.0)	10.1 (0.20)
United Arab Emirates	56 (0.9)	532 (1.8)	35 (1.0)	459 (3.1)	9 (0.3)	427 (3.9)	11.6 (0.03)
United States	34 (3.2)	544 (5.7)	46 (3.4)	503 (4.3)	19 (2.6)	500 (7.8)	10.6 (0.15)
Uzbekistan	27 (3.5)	450 (7.0)	70 (3.6)	441 (3.7)	3 (1.0)	454 (8.4)	10.8 (0.12)
International Average	24 (0.4)	512 (1.3)	56 (0.5)	502 (0.6)	20 (0.4)	481 (1.6)	
Benchmarking Participants							
Ontario, Canada	r 32 (3.9)	511 (7.2)	62 (4.3)	498 (4.2)	6 (2.4)	522 (12.4)	10.9 (0.14)
Quebec, Canada	r 8 (2.7)	531 (9.4)	80 (3.3)	516 (3.5)	11 (3.0)	506 (6.3)	10.1 (0.15)
Abu Dhabi, UAE	r 43 (1.9)	500 (3.6)	43 (2.1)	424 (4.3)	14 (0.9)	405 (6.1)	10.9 (0.05)
Dubai, UAE	79 (0.2)	572 (1.8)	18 (0.2)	499 (4.1)	3 (0.0)	470 (15.1)	12.6 (0.01)
Sharjah, UAE	r 54 (2.8)	526 (5.9)	35 (2.7)	487 (6.5)	10 (0.3)	459 (4.8)	11.6 (0.09)

This TIMSS context questionnaire scale was established in 2015 based on the combined response distribution of countries that participated in TIMSS 2015. To provide a point of reference for country comparisons, the scale centerpoint of 10 was located at the mean of the combined distribution. The units of the scale were chosen so that 2 scale score points corresponded to the standard deviation of the distribution.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

An "r" indicates data are available for at least 70% but less than 85% of the students.

An "s" indicates data are available for at least 50% but less than 70% of the students.

A tilde (~) indicates insufficient data to report result.

Exhibit 4.1.8: Schools Where Students Begin the Primary Grades With Literacy and Numeracy Skills – Principals' Reports

Country	More than 75% Begin with Skills		25–75% Begin with Skills		Less than 25% Begin with Skills		Average Scale Score
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	
Albania	48 (5.9)	495 (8.0)	48 (5.6)	486 (6.6)	4 (2.0)	489 (18.1)	11.6 (0.17)
Armenia	12 (2.8)	456 (8.1)	58 (4.6)	461 (3.7)	30 (4.1)	451 (5.0)	9.3 (0.15)
Australia	r 6 (1.9)	585 (8.5)	47 (4.3)	560 (4.2)	48 (4.0)	539 (4.3)	8.7 (0.14)
Azerbaijan	27 (4.0)	424 (7.3)	60 (4.2)	421 (3.8)	13 (2.2)	420 (9.5)	10.6 (0.14)
Bahrain	38 (3.1)	498 (7.5)	54 (3.3)	464 (5.4)	8 (1.8)	430 (19.1)	11.1 (0.11)
Belgium (Flemish)	2 ~	~ ~	76 (3.9)	494 (3.3)	22 (3.8)	479 (7.7)	9.3 (0.09)
Belgium (French)	8 (2.7)	491 (11.4)	76 (3.4)	486 (3.0)	16 (2.5)	448 (8.3)	9.8 (0.12)
Bosnia & Herzegovina	r 4 (2.4)	427 (12.4)	64 (5.1)	458 (4.4)	31 (4.9)	442 (7.7)	9.3 (0.15)
Brazil	19 (3.0)	469 (9.3)	51 (3.8)	420 (4.8)	30 (2.9)	409 (8.7)	9.9 (0.13)
Bulgaria	21 (3.0)	577 (7.2)	62 (4.2)	541 (4.8)	17 (2.9)	433 (18.2)	10.2 (0.12)
Canada	24 (2.1)	542 (4.9)	68 (2.4)	518 (2.2)	8 (1.4)	510 (6.7)	10.6 (0.09)
Chile	r 18 (3.9)	488 (8.8)	57 (4.4)	485 (4.1)	25 (3.9)	470 (6.0)	9.9 (0.18)
Chinese Taipei	45 (3.3)	576 (3.0)	47 (3.7)	569 (2.5)	8 (1.9)	575 (5.5)	11.4 (0.12)
Cyprus	6 (2.1)	521 (15.2)	62 (3.9)	492 (4.2)	32 (3.4)	473 (5.6)	9.2 (0.10)
Czech Republic	1 ~	~ ~	46 (3.9)	530 (3.6)	54 (3.9)	521 (3.3)	8.6 (0.09)
Denmark	r 4 (1.7)	532 (12.6)	77 (4.2)	527 (3.3)	19 (3.9)	512 (6.6)	9.5 (0.11)
England	r 47 (5.1)	570 (4.8)	47 (4.9)	551 (5.5)	6 (2.6)	526 (11.0)	11.3 (0.18)
Finland	14 (3.1)	561 (4.7)	82 (3.3)	539 (3.0)	4 (1.6)	498 (29.8)	10.6 (0.10)
France	r 9 (2.5)	508 (9.1)	87 (3.1)	485 (3.4)	4 (1.8)	439 (15.9)	10.4 (0.09)
Georgia	4 (1.6)	476 (18.0)	55 (4.2)	464 (4.5)	40 (4.2)	465 (5.5)	8.9 (0.13)
Germany	0 ~	~ ~	47 (3.5)	528 (3.7)	53 (3.5)	509 (4.6)	8.5 (0.08)
Hong Kong SAR	r 74 (3.4)	556 (5.3)	26 (3.4)	525 (10.1)	0 ~	~ ~	12.5 (0.09)
Hungary	0 ~	~ ~	34 (4.0)	543 (6.5)	66 (4.0)	513 (4.9)	8.0 (0.11)
Iran, Islamic Rep. of	10 (2.2)	431 (13.7)	34 (3.3)	436 (8.1)	56 (3.6)	429 (5.8)	8.6 (0.15)
Ireland	80 (3.4)	537 (3.6)	20 (3.4)	514 (7.5)	0 ~	~ ~	12.7 (0.09)
Italy	5 (1.6)	498 (13.7)	57 (3.8)	514 (3.5)	38 (3.8)	509 (4.0)	9.1 (0.13)
Japan	34 (3.6)	567 (3.5)	64 (3.8)	549 (2.6)	3 (1.4)	555 (19.0)	11.1 (0.11)
Jordan	30 (4.2)	426 (8.8)	53 (4.3)	417 (7.5)	17 (2.7)	409 (13.7)	10.7 (0.17)
Kazakhstan	20 (3.0)	470 (9.4)	73 (3.3)	466 (4.4)	7 (1.7)	469 (12.5)	10.5 (0.11)
Korea, Rep. of	57 (4.4)	591 (2.9)	43 (4.4)	574 (4.8)	0 ~	~ ~	11.9 (0.13)
Kosovo	r 24 (4.0)	398 (6.7)	65 (4.6)	405 (4.2)	11 (2.9)	387 (19.5)	10.6 (0.14)
Kuwait	27 (3.2)	424 (13.7)	52 (4.2)	361 (8.3)	21 (3.4)	329 (9.8)	10.4 (0.13)
Latvia	50 (4.2)	530 (3.8)	47 (4.1)	522 (4.4)	3 (2.4)	496 (18.9)	11.7 (0.12)
Lithuania	16 (3.2)	545 (7.9)	79 (3.6)	536 (3.4)	5 (1.8)	522 (15.2)	10.5 (0.11)
Macao SAR	42 (0.1)	535 (2.0)	57 (0.1)	539 (1.6)	2 ~	~ ~	11.6 (0.00)
Montenegro	1 ~	~ ~	54 (0.6)	467 (2.9)	45 (0.7)	458 (2.4)	8.7 (0.02)
Morocco	17 (2.9)	399 (13.4)	60 (3.7)	394 (6.2)	22 (3.0)	390 (13.7)	9.9 (0.14)
Netherlands	s 20 (5.6)	522 (7.1)	77 (5.7)	516 (3.9)	3 (1.7)	446 (29.4)	10.7 (0.20)
New Zealand	r 5 (1.8)	536 (7.7)	41 (4.9)	529 (5.5)	54 (4.7)	509 (6.0)	8.6 (0.14)
North Macedonia	8 (2.1)	422 (13.1)	57 (3.5)	454 (5.1)	36 (3.5)	425 (7.0)	9.3 (0.13)
Norway (5)	r 1 ~	~ ~	74 (3.8)	535 (3.3)	25 (3.8)	523 (4.8)	9.3 (0.10)
Oman	24 (2.8)	455 (7.4)	58 (3.3)	426 (6.2)	17 (2.7)	419 (9.2)	10.4 (0.13)
Poland	25 (3.8)	546 (4.6)	72 (3.9)	552 (2.7)	3 (1.3)	544 (16.3)	10.9 (0.10)
Portugal	7 (2.1)	513 (10.1)	60 (4.0)	510 (3.2)	33 (3.5)	511 (3.8)	9.3 (0.13)
Qatar	53 (3.2)	488 (6.2)	36 (3.0)	450 (5.9)	11 (2.4)	459 (13.5)	11.3 (0.15)
Romania	s 57 (5.7)	533 (8.6)	31 (5.4)	528 (6.9)	12 (4.0)	508 (20.3)	11.5 (0.27)
Saudi Arabia	29 (3.2)	435 (7.7)	50 (3.6)	426 (5.9)	21 (2.9)	421 (9.8)	10.3 (0.14)
Serbia	2 ~	~ ~	87 (2.8)	511 (3.4)	11 (2.6)	493 (8.4)	9.7 (0.09)
Singapore	82 (0.0)	611 (3.0)	18 (0.0)	590 (6.3)	1 ~	~ ~	12.6 (0.00)
Slovak Republic	3 (1.4)	538 (10.8)	62 (3.6)	535 (3.3)	35 (3.6)	494 (8.8)	8.9 (0.12)
Slovenia	1 ~	~ ~	55 (4.2)	523 (2.6)	44 (4.1)	527 (3.6)	8.8 (0.10)
South Africa (5)	r 17 (3.4)	344 (27.8)	68 (4.2)	294 (8.0)	16 (2.9)	299 (18.9)	10.2 (0.12)
Spain	50 (2.6)	514 (2.9)	48 (2.6)	496 (2.8)	2 ~	~ ~	11.6 (0.07)
Sweden	r 46 (4.6)	544 (3.7)	50 (4.5)	522 (6.1)	5 (1.8)	509 (22.3)	11.2 (0.16)
Türkiye (5)	27 (3.9)	574 (9.6)	45 (4.1)	573 (6.0)	28 (3.9)	565 (6.6)	10.1 (0.20)
United Arab Emirates	56 (0.9)	536 (2.4)	35 (1.0)	447 (3.8)	9 (0.3)	410 (4.9)	11.6 (0.03)
United States	34 (3.2)	556 (5.1)	46 (3.4)	521 (4.0)	19 (2.6)	515 (7.2)	10.6 (0.15)
Uzbekistan	27 (3.5)	420 (6.8)	70 (3.6)	408 (4.0)	3 (1.0)	424 (11.1)	10.8 (0.12)
International Average	24 (0.4)	504 (1.3)	56 (0.5)	493 (0.7)	20 (0.4)	471 (1.7)	
Benchmarking Participants							
Ontario, Canada	r 32 (3.9)	534 (6.9)	62 (4.3)	522 (3.8)	6 (2.4)	536 (14.2)	10.9 (0.14)
Quebec, Canada	r 8 (2.7)	522 (7.5)	80 (3.3)	509 (3.5)	11 (3.0)	501 (5.8)	10.1 (0.15)
Abu Dhabi, UAE	r 43 (1.9)	498 (4.9)	43 (2.1)	403 (5.3)	14 (0.9)	379 (7.6)	10.9 (0.05)
Dubai, UAE	79 (0.2)	580 (2.1)	18 (0.2)	499 (3.9)	3 (0.0)	469 (17.6)	12.6 (0.01)
Sharjah, UAE	r 54 (2.8)	528 (6.1)	35 (2.7)	479 (7.1)	10 (0.3)	449 (5.2)	11.6 (0.09)

This TIMSS context questionnaire scale was established in 2015 based on the combined response distribution of countries that participated in TIMSS 2015. To provide a point of reference for country comparisons, the scale centerpoint of 10 was located at the mean of the combined distribution. The units of the scale were chosen so that 2 scale score points corresponded to the standard deviation of the distribution.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

An "r" indicates data are available for at least 70% but less than 85% of the students.

An "s" indicates data are available for at least 50% but less than 70% of the students.

A tilde (~) indicates insufficient data to report result.